U.S. Department of Agriculture Grain Inspection, Packers and Stockyards Administration Federal Grain Inspection Service

GRAIN INSPECTION HANDBOOK BOOK III CHAPTER 2 3-13-06

CHAPTER 2 CERTIFICATION OF SHIPLOTS, UNIT TRAINS, AND LASH BARGES

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2.1 INTRODUCTION

This chapter establishes procedures for certifying shiplots, unit trains, and lash barges.

Two certification options (Option 1 and Option 2) are available for grain loaded or unloaded from shiplots, unit trains, or lash barges. Under Option 1, the lot offered for inspection is certified as being a specific U.S. grade. Under Option 2, the lot offered for inspection is certified as being equal to or better in quality than the grade specified by the contract.

Prior to the inspection of the lot, the applicant shall declare the certification option desired. If official personnel do not receive a request for a specific certification option, check with the applicant to determine what certification option is desired. The applicant may change the certification option any time before the issuance of the certificate.

Special certification procedures are also discussed for dockage, wheat subclass, wheat protein, barley protein, corn protein, oil, and starch, and soybean oil and protein.

2.2 OPTION 1 CERTIFICATION

a. <u>Determining Uniformity</u>. A lot that is uniform in quality for the declared grade under the inspection plan is certified as a single lot provided the average quality meets contracted grade. If the lot presented for inspection is not uniform in quality for the declared grade, each portion is certified separately according to quality.

A lot is considered not uniform in quality if:

- (1) The weighted or mathematical average of the lot is inferior to the declared quality.
- (2) The lot contains a material portion as determined by the inspection plan.
- (3) A better grade prevails but the lot is not uniformly loaded for the better grade after reapplying the inspection plan.

If a load order grade is not received for the lot, determine uniformity based on the average quality of the grain in the lot. If the lot is not uniformly loaded for the average quality of the lot, the applicant may request separate certification of the material portions or request a determination for uniformity for the next lower grade.

- b. <u>Certification of Uniform Lots</u>. If a lot is uniform in quality, the grade of the lot is based on the applicable weighted or mathematical average of the sublot results. Compare the weighted or mathematical average to the declared grade before assigning the grade. Based on this comparison, certify the lot according to the following procedure:
 - (1) Certify the lot according to the weighted or mathematical average if the grade of the lot, as indicated by the weighted or mathematical average, is the same as the declared grade.

EXAMPLE:

Load Order Grade - U.S. No. 3 Yellow corn

Weighted/Mathematical Average Grade: U.S. No. 3 Yellow corn.

Lot is uniformly loaded for U.S. No. 3 Yellow corn.

Certification: U.S. No. 3 Yellow corn

- (2) The grade of the lot, as determined by the weighted or mathematical average, is better than the declared grade.
 - (a) Better grade prevails during loading. When a better grade prevails during loading (over 50 percent of the lot, by weight, is of a better grade than the declared grade), the inspection plan is reapplied in chronological order to determine if the lot is uniform for the better grade. If the lot is uniform for the better grade, certify the lot for the better grade.

EXAMPLE LOG: Load Order Grade - U.S. No. 3 Yellow corn

<u>Sublot</u>	Quantity (bu.)	<u>Grade</u>	BCFM (%)	<u>DKT (%)</u>	
1 2 3 4 5 6 7 8 9 10	40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000	2YC 2YC 2YC 3YC 2YC 3YC 2YC 2YC 2YC 2YC 2YC	2.3 2.7 2.6 *3.2 2.3 2.6 2.5 2.6 2.4 2.6 2.5	3.7 4.0 4.3 4.2 4.5 *5.7 5.0 4.9 4.7 4.7 4.8	
Weighted Average:		2YC	2.3	4.6	

* Exceeds the grade limit for U.S. No. 2 but is within the breakpoint.

Procedure: Reapply the tolerances for U.S. No. 2.

Certification: Certify lot as U.S. No. 2 Yellow corn

(b) Load order grade prevails during loading. When the weighted/mathematical average indicates that a better grade should apply, but the load order grade prevails during loading (over 50 percent of the lot, by weight, is the same grade as the load order grade), certify the lot for the load order grade. A lot is not uniform for a better quality grade when the load order grade prevailed during loading.

Since, in this situation, the grade shown on the grade line does not correspond with the factor averages, the following statement is shown in the "Remarks" section of the certificate:

"The above grade of (grade certified) prevailed during loading. However, the lot would have graded (average grade) based on the average of the sublot results."

EXAMPLE:

Load Order Grade - U.S. No. 3 Yellow corn

Entire lot grades U.S. No. 3 Yellow corn 60% account BCFM 40% account DKT

Weighted/Mathematical Average Grade: U.S. No. 2 Yellow corn

Lot is not uniform for U.S. No. 2 Yellow corn.

Prevailing grade: U.S. No. 3 Yellow corn

Certification: U.S. No. 3 Yellow corn

(Use actual average results reported on inspection log.)

c. Certification of Non-Uniform Lots.

- (1) The grade of the lot, as determined by the weighted/mathematical average, is inferior to the declared grade. Because of loading tolerances, a lot can sometimes meet the requirements of the inspection plan, but the final factor averages are inferior to the factor limits for the declared grade. The lot is <u>not</u> considered uniform in quality if this occurs. Separate certificates are issued for each portion (sublot) by grade.
- (2) A better grade prevails during loading but the lot is not uniform to it. When the lot is not uniform for the better grade, as determined by the established procedures, all portions (sublots) of the lot are certified separately by grade.

EXAMPLE LOG: Load Order Grade - U.S. No. 3 Yellow corn

Sublot	Quantity (bu.)	<u>Grade</u>	<u>BCFM (%)</u>	<u>DKT (%)</u>
1 2 3 4 5 6 7 8 9 10	40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000 40,000	2YC 2YC 3YC 2YC 3YC 2YC 2YC 2YC 2YC 2YC 2YC	2.3 2.6 *3.1 3.0 **3.3 2.3 2.4 2.3 2.3 3.0 2.5	4.7 4.0 4.3 4.2 5.0 4.7 4.9 4.7 4.7 4.8 4.6
Weighted Average:		2YC	2.6	4.6

- * Exceeds the grade limit for U.S. No. 2 and CuSum value is within the breakpoint.
- ** Exceeds the grade limit for U.S. No. 2 and CuSum value exceeds the breakpoint.

Procedure: Reapply the tolerances for U.S. No. 2.

(Lot is not uniform for U.S. No. 2.)

Certification: Issue two certificates.

One certificate for 360,000 bushels of U.S. No. 2 YC

One certificate for 80,000 bushels of U.S. No. 3 YC (Sublots 3 and 5 account BCFM)

(3) <u>Combining Material Portions</u>. A material portion (MP) is certified as a separate lot (or lots). When more than one material portion is found during the loading of a lot, all material portions that are material portions for the same factor and are of the same numerical grade are considered (like) material portions.

Like material portions are averaged and certified together. Only material portions of the same inspection level (reinspection, appeal inspection, or Board appeal inspection) are combined.

EXAMPLE:

Load Order Grade: U.S. No. 3 Yellow corn

MP#1 exceeds BCFM breakpoint

MP#2 exceeds BCFM breakpoint

MP#3 exceeds DKT breakpoint

All MPs grade U.S. No. 4 Yellow corn. MP#1 and MP#2 are combined and certified as one portion because both are material portions for the same factor. MP#3 is certified separately because it is a material portion on a different factor.

(4) <u>Issuing the Correct Certificate for Material Portions</u>. The type of certificate issued for a material portion depends on: the applicant's use of the off grade grain; whether or not the applicant requests a certificate; or if official personnel deem a certificate is necessary.

If the applicant elects to leave the material portion on board the carrier, a separate certificate is issued. Use an appropriate stowage statement to identify the location of the material portion in relation to the remainder of the lot. Also show the estimated quantity of grain for each lot certified.

Divided-lot inspection certificates are not issued for the material portions or the remainder of the lot when a material portion remains on board the carrier.

Inspection certificates are not issued when a material portion is removed from the lot by discharging the carrier or returning the grain from a shipping bin. If applicant requests a certificate or a certificate is deemed necessary by official personnel, the following certificates are issued:

- (a) Out certificates. Issue an "out" certificate if the material portion, or a part of the material portion, is removed from the carrier. An "out" certificate is issued if a part of the grain removed from the carrier is also returned from a shipping bin.
- (b) <u>Local certification</u>. Issue a "local" certificate if the entire material portion is returned from a shipping bin.

2.3 OPTION 2 CERTIFICATION

a. <u>General</u>. When a contract specifies an Option 2 grade designation, the applicant may specifically request Option 2 certification in the load order or simply state "or better" as part of the grade designation.

Under Option 2 certification, no limitation is placed on the amount of better quality grain in the lot. When a lot meets or is of better quality than the declared grade, include the term "or better" immediately following the numerical or sample grade designation and show the weighted/mathematical averages for the factors on the inspection certificate. The term "or better" is not used when grain has a U.S. No. 1 grade designation.

- b. <u>Material Portions Under Option 2</u>. When material portions occur during the loading or unloading operation, certification of the lot under Option 2 depends on the reasons for the material portions and whether or not the material portions are removed from the lot.
 - (1) <u>Material Portion Removed from Lot</u>. When a material portion is removed from the lot, certify the material portion (if requested or deemed necessary by official personnel) under the Option 1 grade designation. Certify the remainder of the lot using an Option 2 grade designation.
 - (2) Material Portion Not Removed from Lot.
 - (a) <u>Material portion due to grade determining factors</u>. When a material portion exists due to a grade determining factor and it is not removed from the lot, the conditions for an Option 2 grade designation are not satisfied. Certify the material portion(s) and the remainder of the lot using an Option 1 grade designation.
 - Divided-lot certificates are not issued for the material portion or for the remainder of the lot when the material portion remains on the carrier.
 - (b) Material portion due to non-grade determining factors. When a material portion exists due to a non-grade determining factor (i.e., dockage, moisture, and protein) and it is not removed from the lot, the portions of the lot accepted by the inspection plan are combined and certified under Option 2. The material portions are certified under Option 1 or Option 2 as requested by the applicant.

Material portions certified under Option 1 are combined according to like numerical grades and like non-grade determining factors. Material portions certified under Option 2 are combined according to like or better numerical grades having like non-grade determining factors. Do not apply inspection tolerances when determining which material portions are to be combined.

Divided-lot certificates are not issued for the material portion or for the remainder of the lot when the material portion remains aboard the carrier.

2.4 CERTIFICATION OF DOCKAGE

The grain standards require the certification of dockage as a part of the grade designation for those grains that have dockage. Therefore, procedures for the certification of dockage, both when the percentage is not declared and when the percentage is declared, are provided. The procedures are applicable to both Option 1 and Option 2 grade designations.

It is not necessary to declare the percentage of dockage on the load order unless the percentage of dockage is specified in the sales contract.

- a. <u>Percentage of Dockage Not Declared.</u>
 - (1) Wheat and Rye. When the percentage of dockage is not declared, do not apply inspection tolerances. Record the individual sublot dockage results on the inspection log and certify the average of all sublot results.
 - (2) Other Grains. When the percentage of dockage is not declared, do not apply inspection tolerances. Record individual sublot results on the inspection log.

Upon completion of loading or unloading, determine the average sublot dockage and apply the corresponding inspection tolerance to each sublot. If the dockage in each sublot is acceptable, as determined by the inspection tolerance, certify the average.

If dockage results do not meet the inspection tolerance, the applicant may:

- (a) Request a review inspection of the material portion;
- (b) Request a review inspection of the entire lot;
- (c) Unload or return the inferior grain;

- (d) Receive one certificate for the portion that is uniform to the average dockage percentage and separate certificates for all other percentages of dockage; or
- (e) Request that the established tolerances for a dockage average at the next highest certificate level be applied to each sublot in chronological order to determine whether the lot is uniform at that level. If there is a violation to the inspection plan for the tolerances applied under this alternative, the applicant may again choose alternatives (a) through (e).

b. <u>Percent of Dockage Declared.</u>

- (1) Wheat and Rye. When a dockage level is declared, apply inspection tolerances. Record individual sublot results on the inspection log. If the sublots are accepted by the inspection plan, certify the average dockage percent. If a material portion exists due to dockage, the applicant may:
 - (a) Request a review inspection of the material portion;
 - (b) Request a review inspection of the entire lot;
 - (c) Unload or return the inferior grain; or
 - (d) Receive a separate certificate(s) for the material portion(s). When using this alternative, material portions with different dockage levels may be combined. Do not apply inspection plan tolerances when combining material portions.
- (2) Other Grains. When a dockage level is declared, apply inspection tolerances. Record individual sublot results on the inspection log. Certify the lowest dockage level that meets the inspection plan. Determining the lowest level may require reapplying the inspection tolerances for a lower dockage level(s). If the lot does not meet the inspection plan for the declared dockage level, apply the alternatives shown in section a. (2).

c. <u>Certification of Dockage Range</u>.

At the request of the applicant for service, the following statement may be used on the certificate to state the range of dockage within a lot.

"Sublot dockage results ranged from (lowest) percent to (highest) percent."

2.5 CERTIFICATION OF SUBCLASS

Some contracts indicate two different subclasses are acceptable for a particular class of grain. These same contracts may establish different sales prices for the grain based on the subclass certified. Applicants may not know which subclass is available to meet a particular subclass requirement. Consequently, the easiest subclass to fulfill is generally requested by the applicant.

The following procedures are established so an applicant may request certification for a different subclass than that specified in the load order if a different subclass prevails during loading. If requested, official personnel will reapply the inspection plan tolerance for the different subclass. If the lot is acceptable for the requested subclass, that subclass is shown on the certificate

- a. <u>Reapplying the Inspection Plan</u>. If an applicant requests certification for a prevailing subclass other than the subclass specified in the load order, official personnel will:
 - (1) Determine the appropriate grade limit, breakpoint, and starting value for the requested subclass.
 - (2) Reapply the inspection plan tolerances for all sublots and material portions inspected in chronological order using the results recorded on the inspection log.
 - (3) Determine if the lot is uniformly loaded for the specified subclass. If a material portion occurs, the applicant may:
 - (a) Request a review inspection of the material portion;
 - (b) Request a review inspection of the entire lot;
 - (c) Unload or return the material portion;
 - (d) Receive one certificate for the portion that is uniform and one certificate for the material portion; or
 - (e) Request certification of the load order subclass for the entire lot.
- b. <u>Certification of Prevailing Subclass</u>. If the prevailing subclass is uniformly loaded, certificate the prevailing subclass.

2.6 CERTIFICATION OF WHEAT PROTEIN

Wheat protein is inspected and certified based on the load order request. The load order may indicate a minimum or maximum protein specification; average or ordinary protein specification; or a protein specification has an acceptable range.

- a. <u>Minimum or Maximum Protein Limits</u>. When a load order indicates a minimum or maximum protein limit, inspection tolerances are used to determine acceptable quality. A material portion occurs if the protein CuSum value exceeds the breakpoint. If a material portion exists due to protein, the applicant may: request a review inspection of the material portion; request a review inspection of the entire lot; unload or return the inferior grain; or receive a separate certificate(s) for the material portion(s). Do not apply inspection plan tolerances when combining material portions.
 - (1) <u>Certifying Acceptable Sublots</u>. All sublots accepted by the inspection plan are combined and certified as one lot.
 - (2) <u>Certifying Material Portions</u>. Official personnel may combine and certify material portions as one lot if the material portions are like in quality and are of the same inspection level (i.e., original inspection, reinspection, appeal inspection, Board appeal inspection).
 - Do not apply inspection tolerances when combining material portions. Applicants may request separate certification of material portions.
- b. <u>Average or Ordinary Protein Limits</u>. When a load order indicates an average or ordinary protein limit, inspection tolerances are not used to determine acceptable quality. Because inspection tolerances are not used, material portions due to protein cannot occur. Applicants may request a review of the entire lot but not a review of individual sublots.
 - (1) <u>Certifying Acceptable Sublots</u>. All sublots accepted by the inspection plan are combined and certified as one lot.
 - (2) <u>Certifying Material Portions</u>. If material portions occur due to a factor other than protein, official personnel may combine and certify material portions as one lot if the material portions are like in quality and are of the same inspection level (i.e., original inspection, reinspection, appeal inspection, and Board appeal inspection). Do not apply inspection tolerances when combining material portions. Applicants may request separate certification of material portions.

- c. <u>Acceptable Protein Range Limits</u>. When a load order indicates an acceptable protein range for the lot (i.e., minimum as well as maximum limits), inspection tolerances are used to determine acceptable quality at both the minimum and maximum limits. A material portion occurs if the protein CuSum value exceeds the breakpoint.
 - (1) <u>Certifying Acceptable Sublots</u>. All sublots accepted by the inspection plan are combined and certified as one lot. A protein range statement is not reported on the certificate unless requested by the applicant.
 - (2) <u>Certifying Material Portions</u>. Official personnel may combine and certify material portions as one lot if the material portions are like in quality and are of the same inspection level (i.e., original inspection, reinspection, appeal inspection, and Board appeal inspection). Do not apply inspection tolerances when combining material portions. Applicants may request separate certification of material portions.

d. <u>Certification of Protein Range</u>.

At the request of the applicant for service, the following statement may be used on the certificate to state the range of protein within a lot.

"Sublot protein results range from (<u>lowest</u>) % to (<u>highest</u>) %."

2.7 CERTIFICATION OF BARLEY PROTEIN, CORN PROTEIN, OIL, AND STARCH, AND SOYBEAN PROTEIN AND OIL

When a load order specifies minimum, maximum, or average limits for protein and/or oil and/or starch (as applicable to barley, corn, and soybeans), inspection tolerances are not applied. Therefore, material portions will not occur due to protein/oil/starch. Applicants may request a review of the entire lot for protein/oil/starch but not a review of individual sublots. The certificate will report the average protein/oil/starch content for the lot.

When a load order specifies that no sublot shall exceed a minimum or maximum limit, a material portion occurs whenever the protein/oil/starch exceeds the contract specification. If a material portion exists due to protein/oil/starch, the applicant may: request a review inspection of the material portion; request a review inspection of the entire lot; unload or return the inferior grain; or receive a separate certificate(s) for the material portion(s). When the last alternative is requested, material portions with different protein/oil/starch levels may be combined. Do not apply inspection plan tolerances when combining material portions.

A special certification statement is used if the entire lot is reviewed for protein/oil/starch only. The statement identifies which results pertain to the review inspection and which results are from the previous inspection.

Unlike wheat protein, the range of protein/oil/starch oil in barley, corn, and soybeans is not critical. For this reason, it is not necessary to certify the actual range of the lot unless it is requested by the applicant.

- a. <u>Certifying Acceptable Sublots</u>. All sublots accepted by the inspection plan are combined and certified as one lot. Certify the range if requested by the applicant.
- b. <u>Certifying Material Portions</u>. Official personnel may combine and certify material portions as one lot if the material portions are of the same inspection level (i.e., original inspection, reinspection, appeal inspection, and Board appeal inspection). Applicants may request separate certification of material portions.
- c. <u>Certification of Protein/Oil/Starch Range</u>.

At the request of the applicant for service, the following statement may be used on the certificate to state the range of protein/oil/starch within a lot.

"Sublot (protein, oil, or starch, as applicable) results range from (<u>lowest</u>) % to (highest) %."